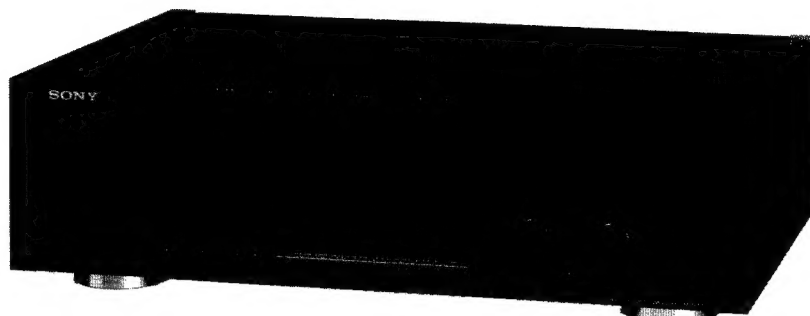


TA-N220

SERVICE MANUAL

*AEP Model
UK Model
E Model*



SPECIFICATIONS

Audio power specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 6 ohm loads, both channels driven, from 20 - 20,000 Hz; rated 50 watts per channel minimum RMS power, with no more than 0.12 % total harmonic distortion from 250 milliwatts to rated output

Other specifications

Continuous RMS power output (both channels driven simultaneously)

Model for Scandinavian countries

Normal: 30 W x 4 (6 ohms, 0.12 %, 20 Hz - 20 kHz)
40 W x 4 (6 ohms, DIN)

BTL: 75 W x 2 (8 ohms, 0.12 %, 20 Hz - 20 kHz)
95 W x 2 (8 ohms, DIN)

Models for other countries

Normal: 50 W x 4 (6 ohms, 0.12 %, 20 Hz - 20 kHz)
60 W x 4 (6 ohms, DIN)

BTL: 100 W x 2 (8 ohms, 0.12 %, 20 Hz - 20 kHz)
130 W x 2 (8 ohms, DIN)

Power bandwidth (IHF)

12 Hz - 40 kHz (6 ohms, THD 0.5 %)

Frequency response

7 Hz - 100 kHz ± 3 dB

Input sensitivity

370 mV (50 kohms)

Signal-to-noise ratio

90 dB (input shorted)

Speaker output

Normal: 6 - 16 ohms

BTL: 8 - 16 ohms

General

System

Complementary Darlington SEPP power amplifier with all stages direct coupled

Power requirements

U.K. model:

240 V AC, 50/60 Hz

European model:

220/230 V AC, 50/60 Hz

Models for other countries:

120, 220, or 240 V AC adjustable, 50/60 Hz

Power consumption

140 W

Dimensions

U.K. model:

Approx. 430 x 135 x 370 mm (w/h/d)
(17 x 5 $\frac{3}{8}$ x 14 $\frac{5}{8}$ inches)

Models for other countries

Approx. 470 x 135 x 370 mm (w/h/d)
(18 $\frac{5}{8}$ x 5 $\frac{3}{8}$ x 14 $\frac{5}{8}$ inches)

including projecting parts and controls

Weight

U.K. model:

Approx. 9.5 kg (15 lb 10 oz), net

Models for other countries

Approx. 10 kg (22 lb 7 oz), net

Supplied accessory

Screws (4) (except for U.K. model)

Design and specifications are subject to change without notice.

Note

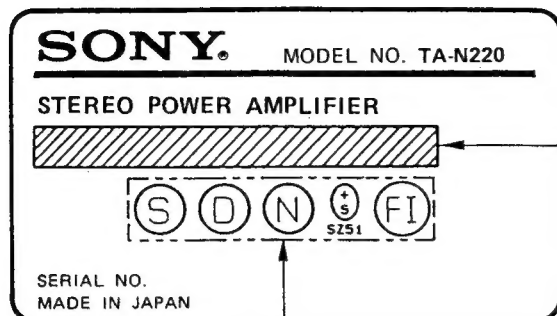
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.



STEREO POWER AMPLIFIER
SONY®

MODEL IDENTIFICATION

— Model Number Label —



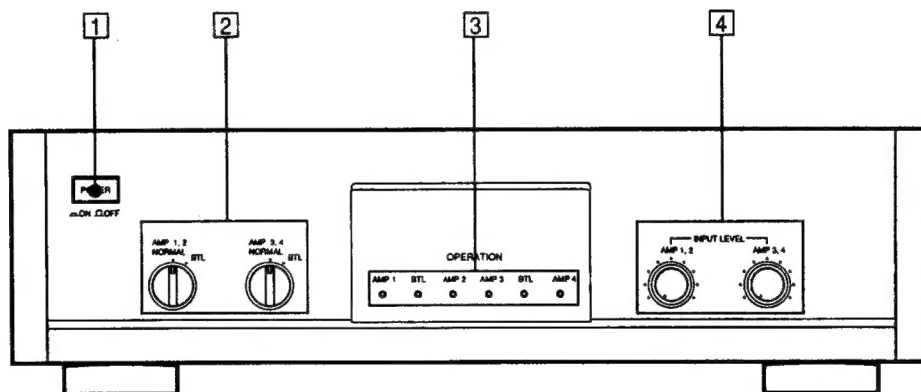
AE2 Model only

AE1, AE2, Germany Models: AC: 220V - 230V ~ 50/60Hz
UK Model: AC: 240V ~ 50/60Hz
E Model: AC: 120/220/240V ~ 50/60Hz

SECTION 1 GENERAL

This section is extracted from instruction manual.

1-1. LOCATION AND FUNCTION OF CONTROLS



1 POWER switch

2 NORMAL/BTL switches

Selects the amplifier operation according to the input and speaker connections.

AMP 1, 2

NORMAL: When the SPEAKER 1 and/or 2 terminals and the INPUT 1 and/or 2 jacks are used.

BTL: When the SPEAKER BTL A terminal and the INPUT A jack are used.

AMP 3, 4

NORMAL: When the SPEAKER 3 and/or 4 terminals and the INPUT 3 and/or 4 jacks are used.

BTL: When the SPEAKER BTL B terminal and the INPUT B jack are used.

- See the "Hooking up a system" section for the system setup and the settings of these switches.

3 OPERATION indicators

Lights up to indicate the number of channels to be used.

When the NORMAL/BTL switches are set to the NORMAL positions, the AMP 1, 2, 3 and 4 indicators light up.

When the NORMAL/BTL switches are set to the BTL positions, the BTL indicators light up.

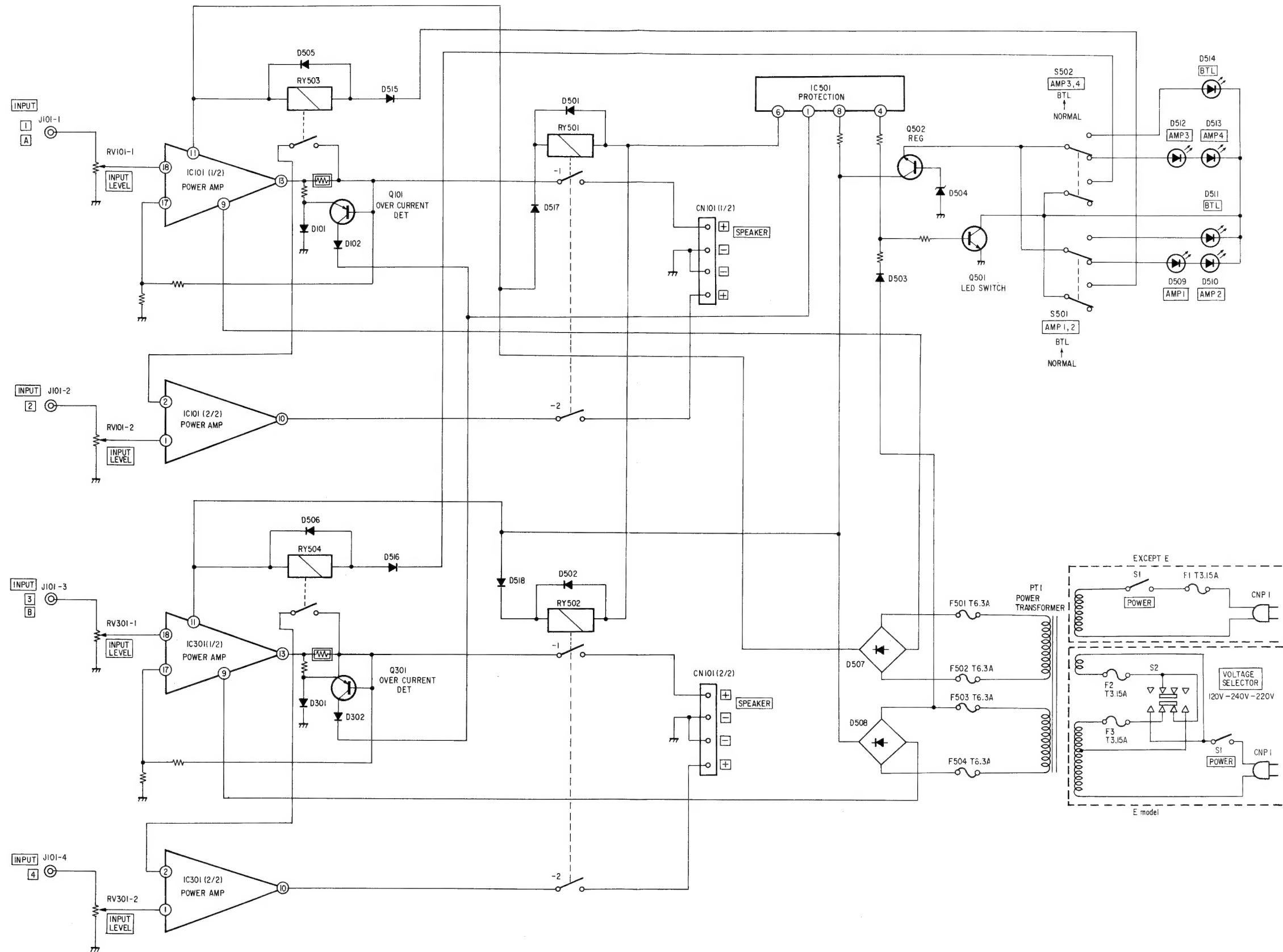
4 INPUT LEVEL controls

AMP 1, 2: Adjusts the input signal connected to the INPUT 1 and 2 jacks.

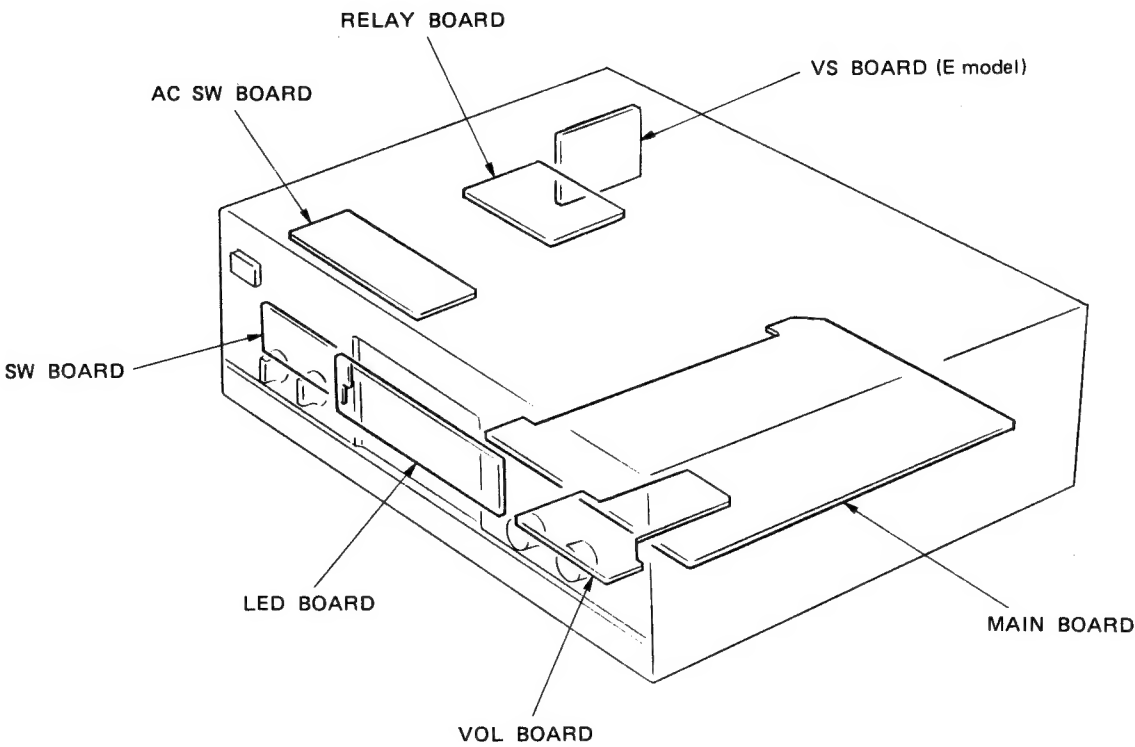
AMP 3, 4: Adjusts the input signal connected to the INPUT 3 and 4 jacks.

SECTION 2 DIAGRAMS

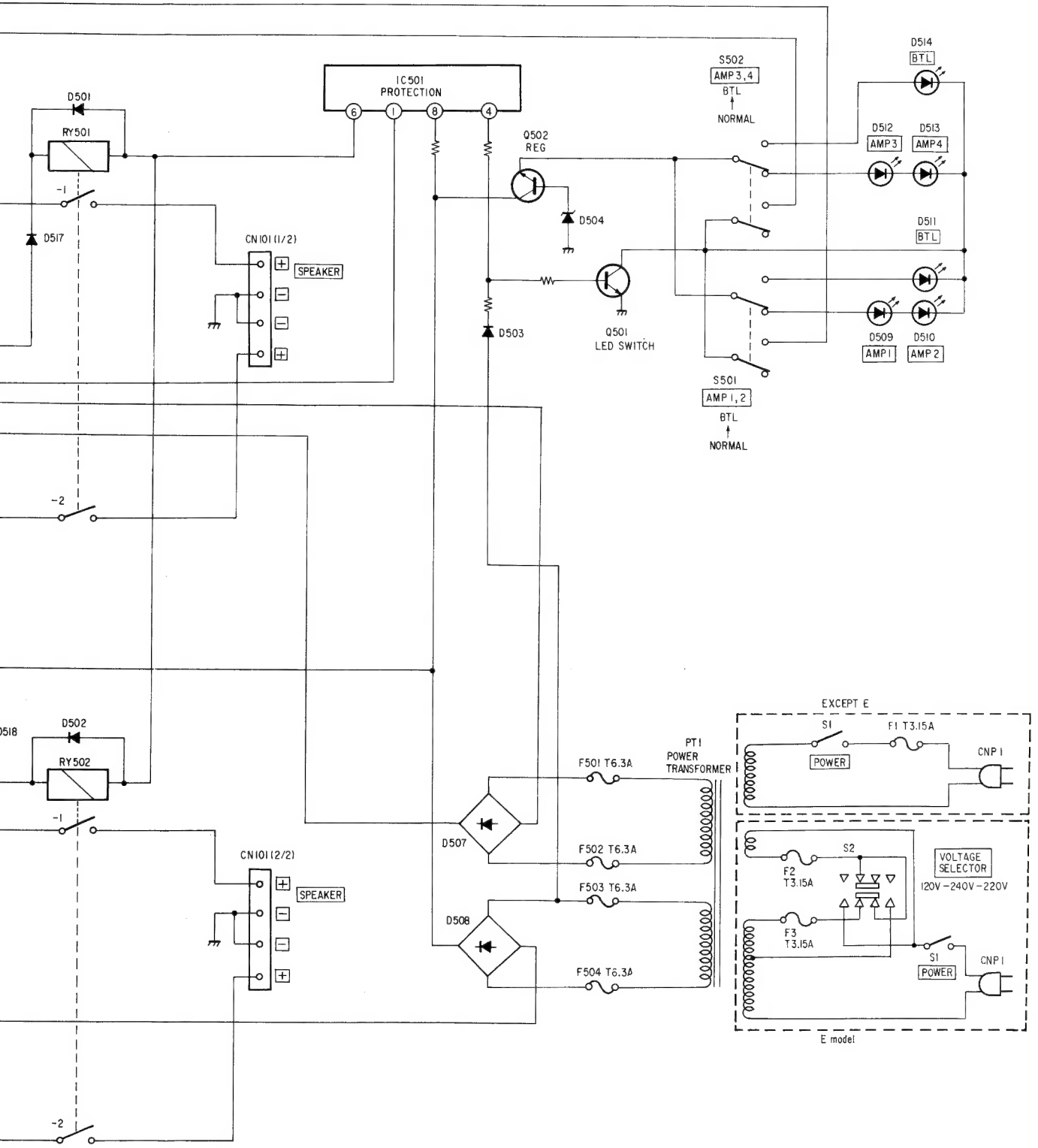
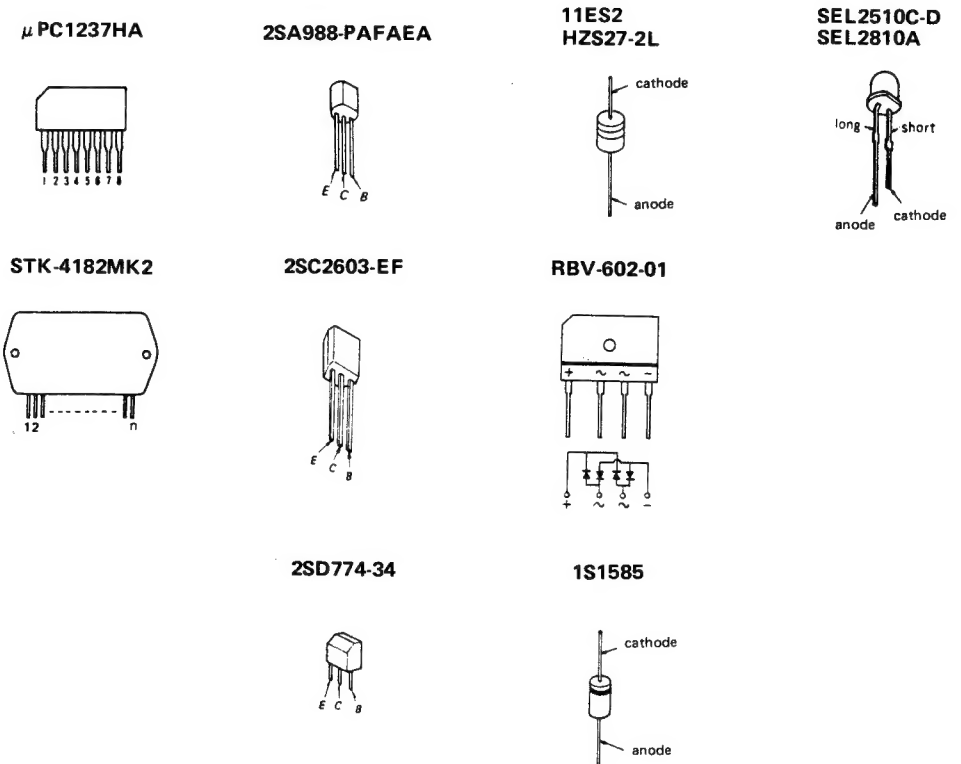
2-1. BLOCK DIAGRAM



2-2. CIRCUIT BOARDS LOCATION

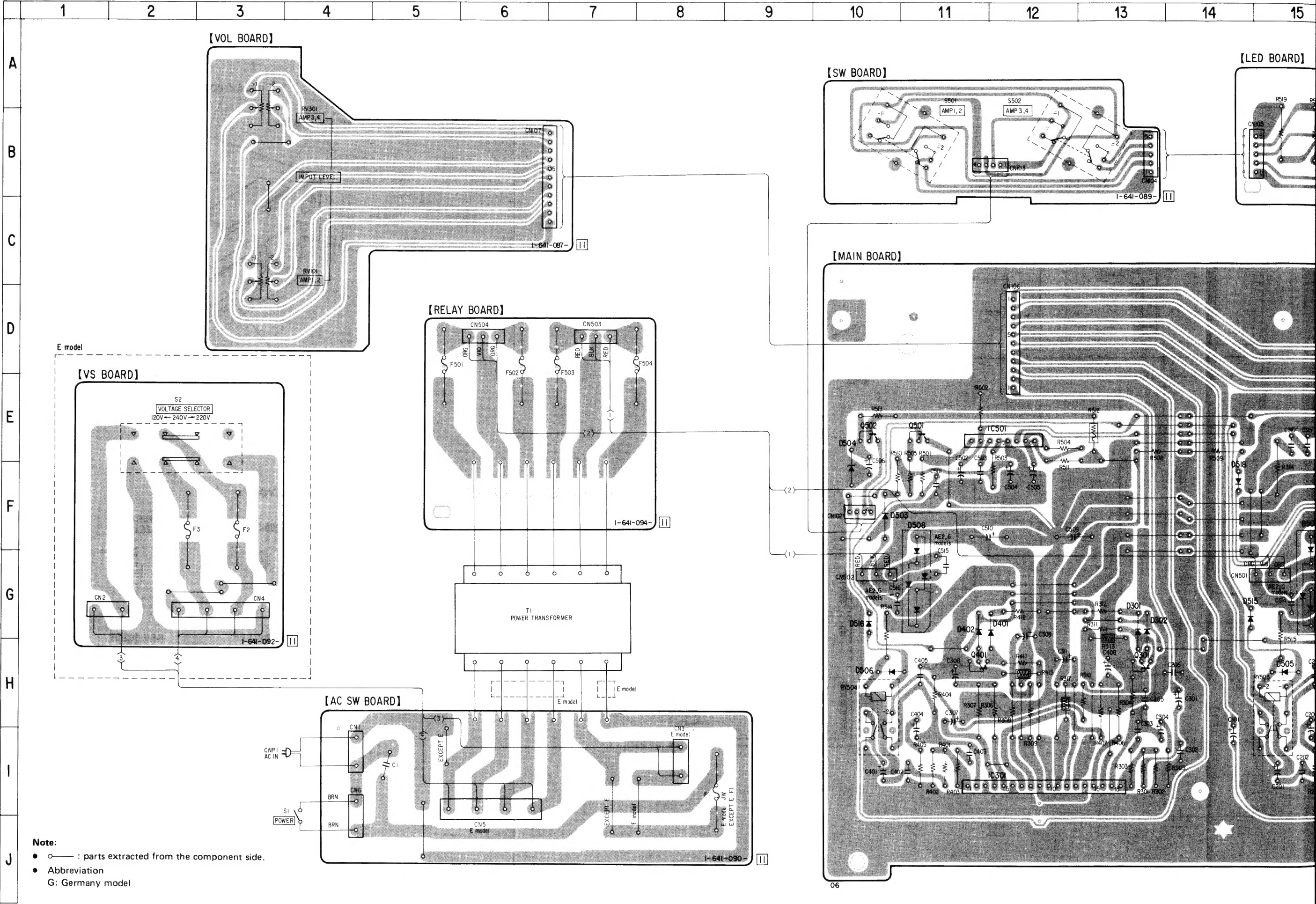


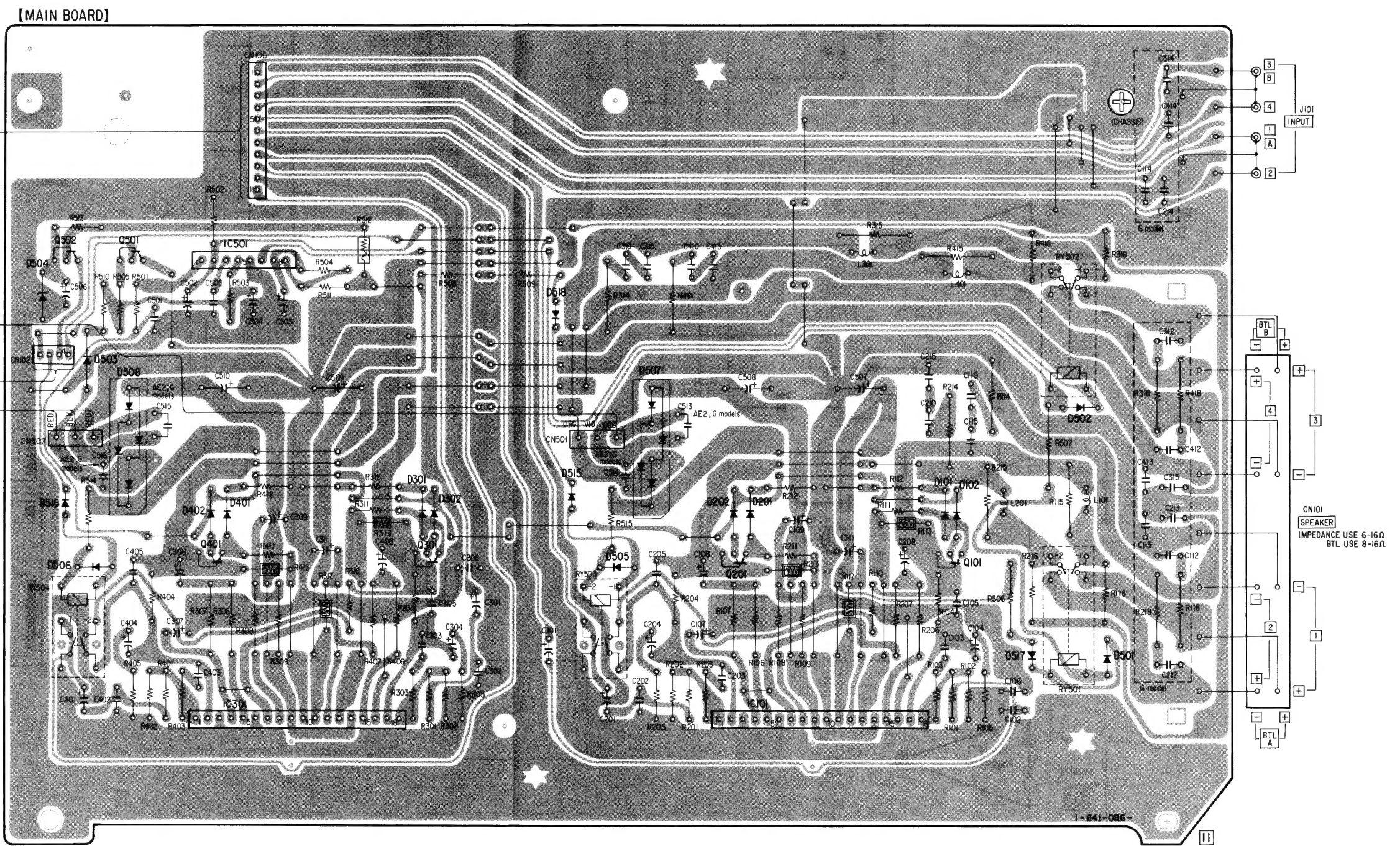
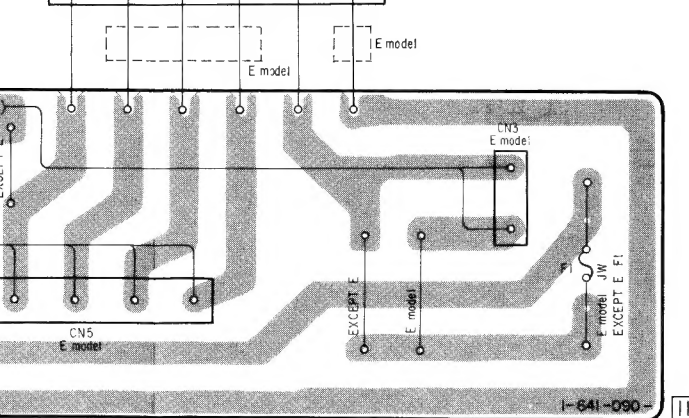
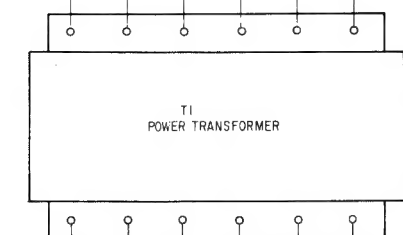
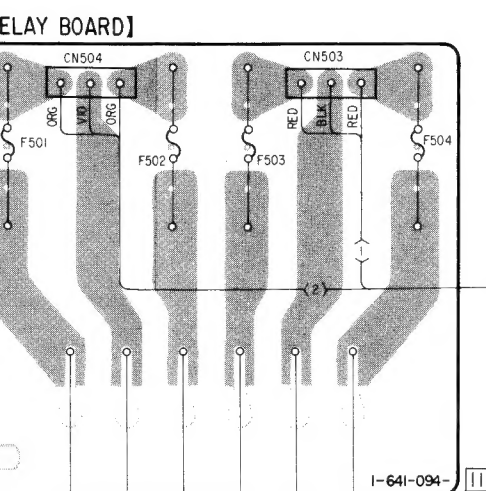
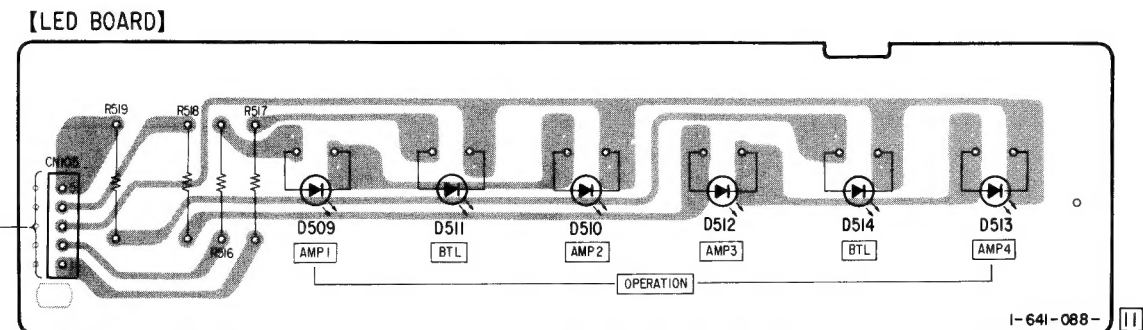
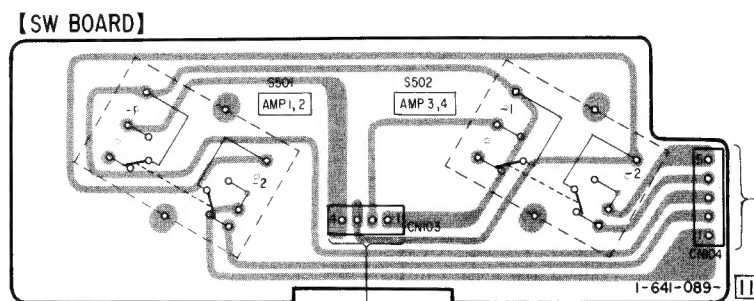
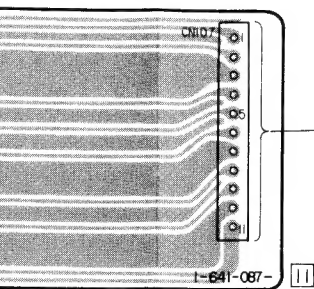
2-3. SEMICONDUCTOR LEAD LAYOUTS



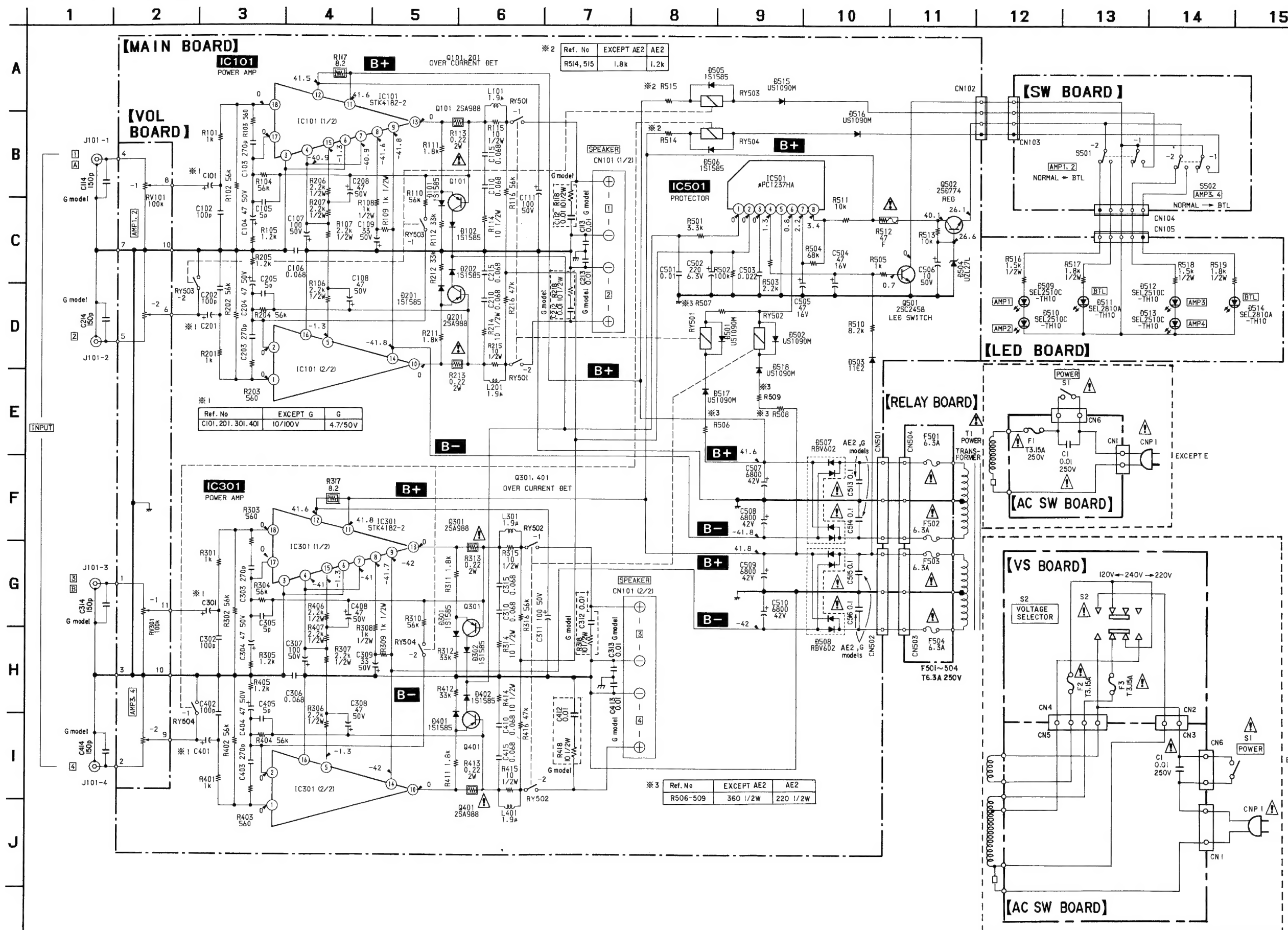
● Semiconductor Location

Ref. No.	Location
D101	G-18
D102	G-18
D201	G-16
D202	G-16
D301	G-13
D302	G-13
D401	G-12
D402	G-11
D501	I-19
D502	G-19
D503	F-10
D504	E-10
D505	H-15
D506	H-10
D507	F-15
D508	F-11
D509	B-16
D510	B-17
D511	B-17
D512	B-18
D513	B-19
D514	B-19
D515	G-14
D516	G-10
D517	I-18
D518	F-14
IC101	I-16
IC301	I-12
IC501	E-12
Q101	H-18
Q201	H-16
Q301	H-13
Q401	H-11
Q501	E-11
Q502	E-10

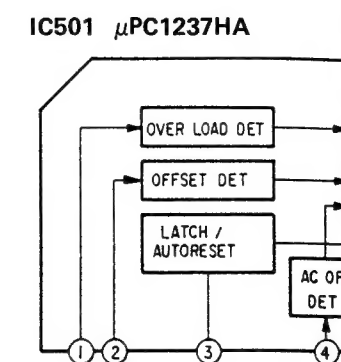









2-5. SCHEMATIC DIAGRAM




2-6. IC BLOCK DIAGRAM

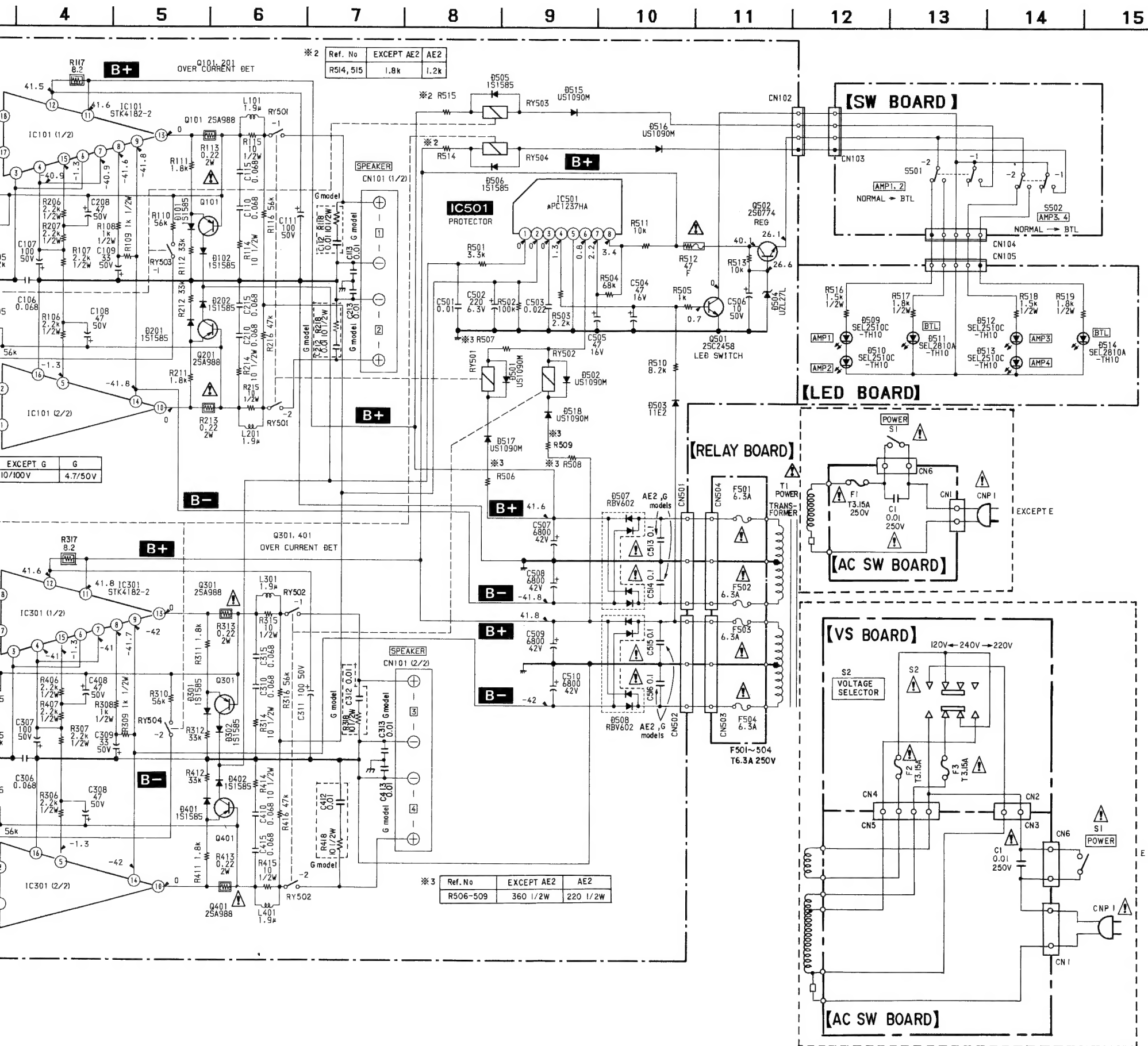


Note:

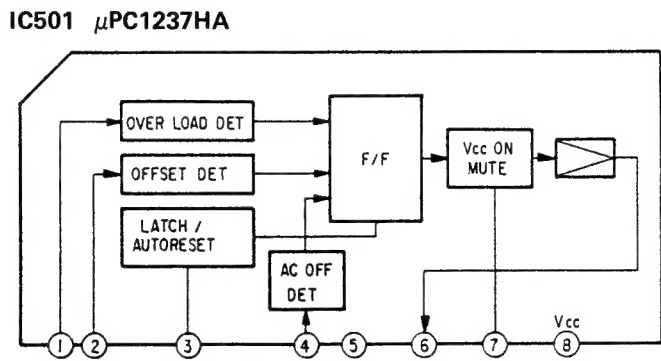
- All capacitors are in μF unless otherwise specified. 50WV or less are not indicated except electrolytic and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless specified.
-  : nonflammable resistor.
-  : fusible resistor.
-  : B+ line.
-  : B- line.
- Voltages are taken with a VOM. (Input impedance 10M) Voltage variations may be noted due to component tolerances.
- Signal path.
 : SOUND

Note: The components identified by mark  are critical for safety. Replace only with part number specified.

- Abbreviation
G: Germany model



2-6. IC BLOCK DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- \square : nonflammable resistor.
- \square : fusible resistor.
- $B+$: B+ line.
- $B-$: B- line.
- Voltages are taken with a VOM. (Input impedance $10\text{M}\Omega$) Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \Rightarrow : SOUND

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- Abbreviation
- G: Germany model



SECTION 3
EXPLODED VIEW

NOTE:

- -XX,-X mean standardized parts, so they may have some difference from the original one.
- Color indication of Appearance Parts.
Example:
KNOB,BALANCE (WHITE) ... (RED)

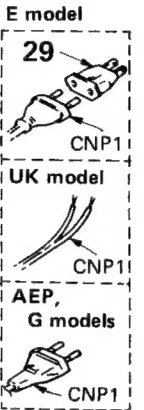
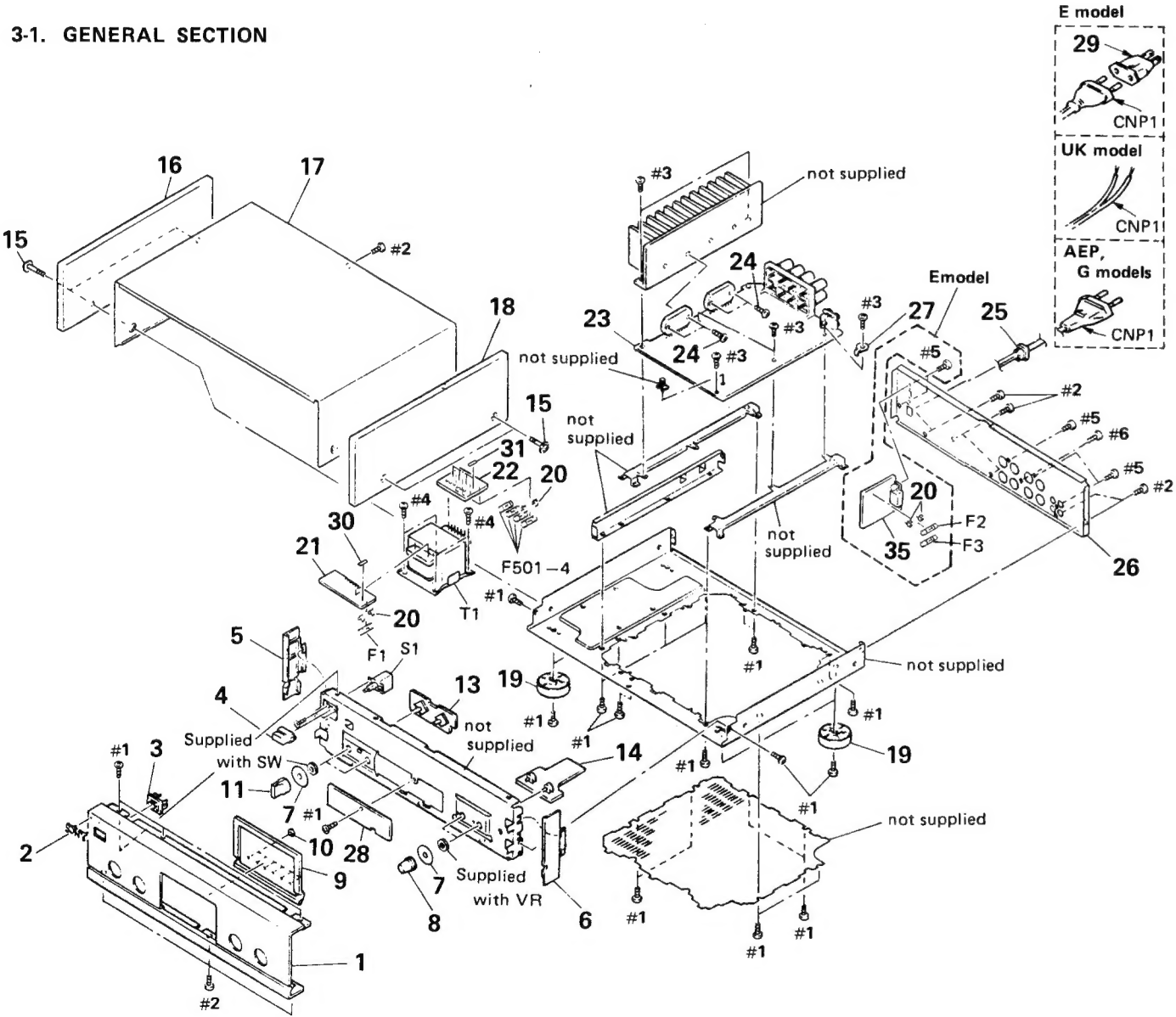
Parts Color Cabinet's Color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

- Abbreviation
G: Germany model

3-1. GENERAL SECTION



Ref. No.	Part No.	Description	Remark
1	4-946-624-01	PANEL, FRONT	
2	4-942-568-01	EMBLEM (NO. 5), SONY	
3	4-926-852-01	ESCUTCHEON, POWER	
4	3-354-912-01	KNOB, POWER	
5	4-946-617-01	ESCUTCHEON (L), SIDE	
6	4-946-618-01	ESCUTCHEON (R), SIDE	
7	3-533-938-00	CLOTH	
8	4-945-173-01	KNOB (R21)	
9	X-4941-829-1	ESCUTCHEON (LED) ASSY	
10	4-938-518-01	INDICATOR (C)	
11	4-916-745-01	KNOB (DIA. 21)	
* 13	1-641-089-11	SW BOARD	
* 14	1-641-087-11	VOL BOARD	
15	3-721-342-11	SCREW, SIDE WOOD (EXCEPT UK)	
15	3-704-366-01	SCREW (CASE) (M3X8) (UK)	
16	X-4941-830-1	PANEL (L) ASSY, SIDE (AE1, AE2, E)	
16	X-4941-836-1	PANEL (L) ASSY, SIDE (G)	
* 17	4-924-920-71	CASE (EXCEPT AE2)	
17	4-941-354-01	CASE (AE2)	
18	X-4941-831-1	PANEL (R) ASSY, SIDE (AE1, AE2, E)	
18	X-4941-837-1	PANEL (R) ASSY, SIDE (G)	
19	4-943-148-42	FOOT (F58175SW)	
20	1-533-225-11	HOLDER, FUSE	
* 21	1-641-090-11	AC SW BOARD	
* 22	1-641-094-11	RELAY BOARD	
* 23	A-4345-674-A	MAIN BOARD, COMPLETE (AE1, UK, E)	
* 23	A-4345-675-A	MAIN BOARD, COMPLETE (G)	
* 23	A-4345-795-A	MAIN BOARD, COMPLETE (AE2)	
24	4-928-635-11	SCREW, +BV (2.6X16) TAPPING	
* 25	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
* 25	3-703-571-11	BUSHING (S) (4516), CORD (E)	
* 26	4-946-623-01	PANEL, BACK (EXCEPT E)	
* 26	4-946-623-11	PANEL, BACK (E)	
* 27	4-942-204-01	PLATE, GROUND	
* 28	1-641-088-11	LED BOARD	
* 29	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
30	3-701-947-16	LABEL (T3.15A), FUSE (EXCEPT E)	
31	3-701-947-19	LABEL (T6.3A), FUSE	
* 35	1-641-092-11	VS BOARD (E)	
* CNP1	1-575-651-11	CORD, POWER (AE1, AE2, G)	
* CNP1	1-575-652-11	CORD, POWER (UK)	
* CNP1	1-575-653-11	CORD, POWER (E)	
* F1	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (EXCEPT E)	
* F2	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (E)	
* F3	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (E)	
* F501	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* F502	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* F503	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* F504	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* S1	1-554-920-31	SWITCH, PUSH (AC POWER) (1 KEY)	
* T1	1-450-698-11	TRANSFORMER, POWER (AE1, G)	
* T1	1-450-699-11	TRANSFORMER, POWER (UK)	
* T1	1-450-700-11	TRANSFORMER, POWER (E)	
* T1	1-450-701-11	TRANSFORMER, POWER (AE2)	

AC SW LED MAIN

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the part specified in the diagrams or the components used on the set.
- -XX,-X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal Oxide-film resistor
F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example :
uA... : μ A..., uPA... : μ PA...,
uPB... : μ PB..., uPC... : μ PC...,
uPD... : μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.
* 1	1-641-090-11	AC SW BOARD	*****	* 1	4-942-204-01
	1-533-225-11	HOLDER, FUSE (EXCEPT E)		C101	1-124-66
		< CAPACITOR >		C101	1-123-36
				C102	1-110-33
* C1	1-161-744-00	CERAMIC 0.01uF 400V		C103	1-110-34
		< CONNECTOR >		C104	1-124-91
* CN1	1-564-321-00	PIN, CONNECTOR 2P		C105	1-164-04
CN5	1-568-106-11	PIN, CONNECTOR 4P (E)		C106	1-136-16
CN6	1-564-321-00	PIN, CONNECTOR 2P		C107	1-126-03
*****				C108	1-124-91
* 1	1-641-088-11	LED BOARD	*****	C109	1-126-61
		< DIODE >		C110	1-136-16
D509	8-719-303-02	LED SEL2510C-D (AMP1)		C111	1-126-03
D510	8-719-303-02	LED SEL2510C-D (AMP2)		C112	1-136-13
D511	8-719-301-49	LED SEL2810A (BTL)		C113	1-136-13
D512	8-719-303-02	LED SEL2510C-D (AMP3)		C114	1-164-07
D513	8-719-303-02	LED SEL2510C-D (AMP4)		C115	1-136-16
D514	8-719-301-49	LED SEL2810A (BTL)		C201	1-124-66
		< RESISTOR >		C201	1-123-36
R516	1-247-754-11	CARBON 1.5K 5% 1/2W		C202	1-110-33
R517	1-247-755-11	CARBON 1.8K 5% 1/2W		C203	1-110-34
R518	1-247-754-11	CARBON 1.5K 5% 1/2W		C204	1-124-91
R519	1-247-755-11	CARBON 1.8K 5% 1/2W		C205	1-164-04
*****				C208	1-124-91
* 1	A-4345-674-A	MAIN BOARD, COMPLETE (AE1, UK, E)	*****	C210	1-136-16
* 1	A-4345-675-A	MAIN BOARD, COMPLETE (G)	*****	C212	1-136-13
* 1	A-4345-795-A	MAIN BOARD, COMPLETE (AE2)	*****	C213	1-136-13
				C214	1-164-07
				C215	1-136-16
				C301	1-124-66
				C301	1-123-36

SECTION 3 EXPLODED VIEW

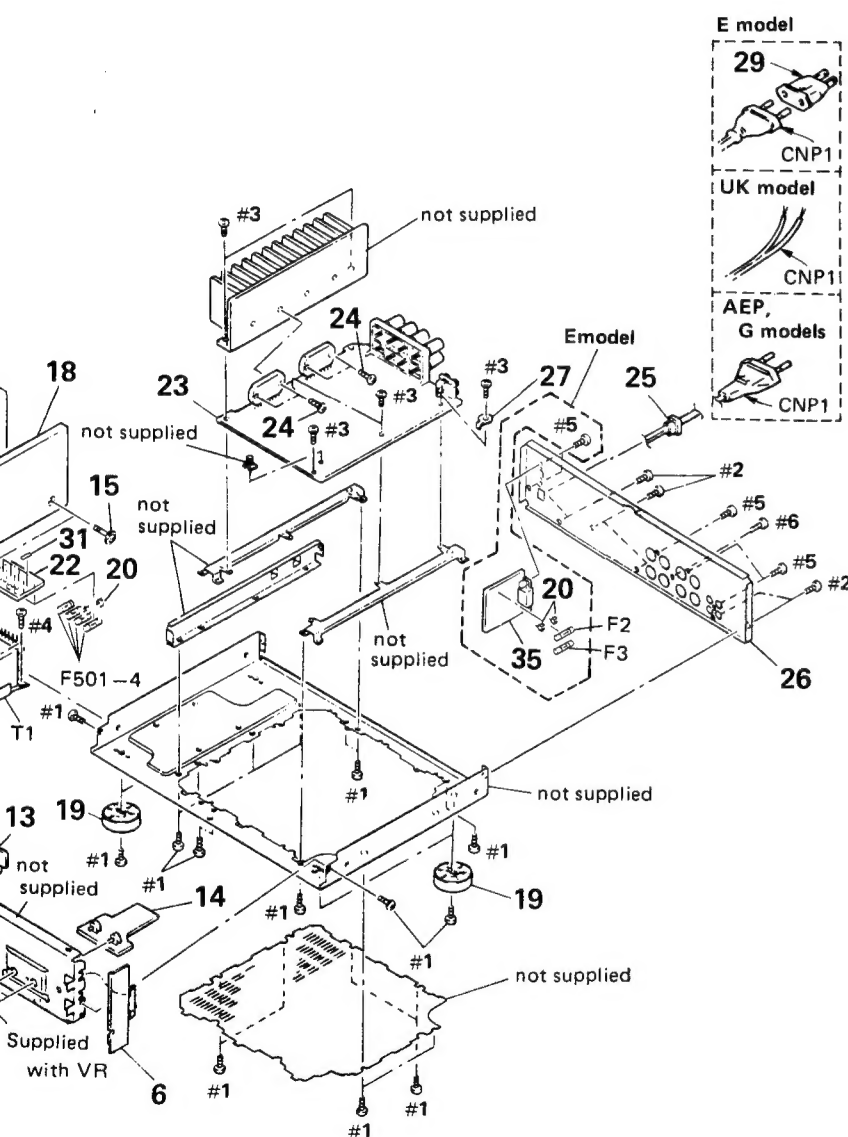
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Hardware (# mark) list is given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

- Abbreviation
- G: Germany model



Ref. No.	Part No.	Description	Remark
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2	4-942-568-01	EMBLEM (NO. 5), SONY	
3	4-926-852-01	ESCUTCHEON, POWER	
4	3-354-912-01	KNOB, POWER	
5	4-946-617-01	ESCUTCHEON (L), SIDE	
6	4-946-618-01	ESCUTCHEON (R), SIDE	
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8	4-945-173-01	KNOB (R21)	
9	X-4941-829-1	ESCUTCHEON (LED) ASSY	
10	4-938-518-01	INDICATOR (C)	
11	4-916-745-01	KNOB (DIA. 21)	
* 13	1-641-089-11	SW BOARD	
* 14	1-641-087-11	VOL BOARD	
15	3-721-342-11	SCREW, SIDE WOOD (EXCEPT UK)	
15	3-704-366-01	SCREW (CASE) (M3X8) (UK)	
16	X-4941-830-1	PANEL (L) ASSY, SIDE (AE1, AE2, E)	
16	X-4941-836-1	PANEL (L) ASSY, SIDE (G)	
* 17	4-924-920-71	CASE (EXCEPT AE2)	
17	4-941-354-01	CASE (AE2)	
18	X-4941-831-1	PANEL (R) ASSY, SIDE (AE1, AE2, E)	
18	X-4941-837-1	PANEL (R) ASSY, SIDE (G)	
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* 23	A-4345-795-A	MAIN BOARD, COMPLETE (AE2)	
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* 25	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
* 25	3-703-571-11	BUSHING (S) (4516), CORD (E)	
* 26	4-946-623-01	PANEL, BACK (EXCEPT E)	
* 26	4-946-623-11	PANEL, BACK (E)	
* 27	4-942-204-01	PLATE, GROUND	
* 28	1-641-088-11	LED BOARD	
* 29	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
30	3-701-947-16	LABEL (T3.15A), FUSE (EXCEPT E)	
31	3-701-947-19	LABEL (T6.3A), FUSE	
* 35	1-641-092-11	VS BOARD (E)	
* CNP1	1-575-651-11	CORD, POWER (AE1, AE2, G)	
* CNP1	1-575-652-11	CORD, POWER (UK)	
* CNP1	1-575-653-11	CORD, POWER (E)	
* F1	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (EXCEPT E)	
* F2	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (E)	
* F3	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (E)	
* F501	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* F502	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* F503	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* F504	1-532-325-00	FUSE, TIME-LAG (6.3A)	
* S1	1-554-920-31	SWITCH, PUSH (AC POWER) (1 KEY)	
* T1	1-450-698-11	TRANSFORMER, POWER (AE1, G)	
* T1	1-450-699-11	TRANSFORMER, POWER (UK)	
* T1	1-450-700-11	TRANSFORMER, POWER (E)	
* T1	1-450-701-11	TRANSFORMER, POWER (AE2)	

AC SW

LED

MAIN



SECTION 4 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the part specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA...,
uPB...: μ PB..., uPC...: μ PC...,
uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H

When indicating parts by reference number, please include the board name.

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

- Abbreviation
- G: Germany model

Ref. No.	Part No.	Description	Remark
* 1	1-641-090-11	AC SW BOARD	

	1-533-225-11	HOLDER, FUSE (EXCEPT E)	
		< CAPACITOR >	
* C1	1-161-744-00	CERAMIC 0.01uF	400V
		< CONNECTOR >	
* CN1	1-564-321-00	PIN, CONNECTOR 2P	
CN5	1-568-106-11	PIN, CONNECTOR 4P (E)	
CN6	1-564-321-00	PIN, CONNECTOR 2P	

* 1	1-641-088-11	LED BOARD	

		< DIODE >	
D509	8-719-303-02	LED SEL2510C-D (AMP1)	
D510	8-719-303-02	LED SEL2510C-D (AMP2)	
D511	8-719-301-49	LED SEL2810A (BTL)	
D512	8-719-303-02	LED SEL2510C-D (AMP3)	
D513	8-719-303-02	LED SEL2510C-D (AMP4)	
D514	8-719-301-49	LED SEL2810A (BTL)	
		< RESISTOR >	
R516	1-247-754-11	CARBON 1.5K 5% 1/2W	
R517	1-247-755-11	CARBON 1.8K 5% 1/2W	
R518	1-247-754-11	CARBON 1.5K 5% 1/2W	
R519	1-247-755-11	CARBON 1.8K 5% 1/2W	

* 1	A-4345-674-A	MAIN BOARD, COMPLETE (AE1, UK, E)	

* 1	A-4345-675-A	MAIN BOARD, COMPLETE (G)	

* 1	A-4345-795-A	MAIN BOARD, COMPLETE (AE2)	

Ref. No.	Part No.	Description	Remark
* 1	4-942-204-01	PLATE, GROUND	
		< CAPACITOR >	
C101	1-124-667-11	ELECT 10uF 20% 100V (EXCEPT G)	
C101	1-123-369-00	ELECT 4.7uF 20% 50V (G)	
C102	1-110-335-11	MYLAR 100PF 5% 50V	
C103	1-110-340-11	MYLAR 270PF 5% 50V	
C104	1-124-910-11	ELECT 47uF 20% 50V	
C105	1-164-041-11	CERAMIC 5PF 0.25PF50V	
C106	1-136-163-00	FILM 0.068uF 5% 50V	
C107	1-126-052-11	ELECT 100uF 20% 50V	
C108	1-124-910-11	ELECT 47uF 20% 50V	
C109	1-126-618-11	ELECT 33uF 20% 50V	
C110	1-136-163-00	FILM 0.068uF 5% 50V	
C111	1-126-052-11	ELECT 100uF 20% 50V	
C112	1-136-153-00	FILM 0.01uF 5% 50V (G)	
C113	1-136-153-00	FILM 0.01uF 5% 50V (G)	
C114	1-164-075-11	CERAMIC 150PF 10% 50V (G)	
C115	1-136-163-00	FILM 0.068uF 5% 50V	
C201	1-124-667-11	ELECT 10uF 20% 100V (EXCEPT G)	
C201	1-123-369-00	ELECT 4.7uF 20% 50V (G)	
C202	1-110-335-11	MYLAR 100PF 5% 50V	
C203	1-110-340-11	MYLAR 270PF 5% 50V	
C204	1-124-910-11	ELECT 47uF 20% 50V	
C205	1-164-041-11	CERAMIC 5PF 0.25PF50V	
C208	1-124-910-11	ELECT 47uF 20% 50V	
C210	1-136-163-00	FILM 0.068uF 5% 50V	
C212	1-136-153-00	FILM 0.01uF 5% 50V (G)	
C213	1-136-153-00	FILM 0.01uF 5% 50V (G)	
C214	1-164-075-11	CERAMIC 150PF 10% 50V (G)	
C215	1-136-163-00	FILM 0.068uF 5% 50V	
C301	1-124-667-11	ELECT 10uF 20% 100V (EXCEPT G)	
C301	1-123-369-00	ELECT 4.7uF 20% 50V (G)	

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C302	1-110-335-11	MYLAR 100PF 5% 50V				< DIODE >	
C303	1-110-340-11	MYLAR 270PF 5% 50V		D101	8-719-815-85	DIODE 1S1585	
C304	1-124-910-11	ELECT 47uF 20% 50V		D102	8-719-815-85	DIODE 1S1585	
C305	1-164-041-11	CERAMIC 5PF 0.25PF50V		D201	8-719-815-85	DIODE 1S1585	
C306	1-136-163-00	FILM 0.068uF 5% 50V		D202	8-719-815-85	DIODE 1S1585	
C307	1-126-052-11	ELECT 100uF 20% 50V		D301	8-719-815-85	DIODE 1S1585	
C308	1-124-910-11	ELECT 47uF 20% 50V		D302	8-719-815-85	DIODE 1S1585	
C309	1-126-618-11	ELECT 33uF 20% 50V		D401	8-719-815-85	DIODE 1S1585	
C310	1-136-163-00	FILM 0.068uF 5% 50V		D402	8-719-815-85	DIODE 1S1585	
C311	1-126-052-11	ELECT 100uF 20% 50V		D501	8-719-815-85	DIODE 1S1585	
C312	1-136-153-00	FILM 0.01uF 5% 50V (G)		D502	8-719-815-85	DIODE 1S1585	
C313	1-136-153-00	FILM 0.01uF 5% 50V (G)		D503	8-719-200-82	DIODE 11ES2	
C314	1-164-075-11	CERAMIC 150PF 10% 50V (G)		D504	8-719-934-18	DIODE HZS27-2L	
C315	1-136-163-00	FILM 0.068uF 5% 50V		D505	8-719-815-85	DIODE 1S1585	
C401	1-124-667-11	ELECT 10uF 20% 100V (EXCEPT G)		D506	8-719-815-85	DIODE 1S1585	
C401	1-123-369-00	ELECT 4.7uF 20% 50V (G)		D507	8-719-302-38	DIODE RBV-602-01	
C402	1-110-335-11	MYLAR 100PF 5% 50V		D508	8-719-302-38	DIODE RBV-602-01	
C403	1-110-340-11	MYLAR 270PF 5% 50V		D515	8-719-815-85	DIODE 1S1585	
C404	1-124-910-11	ELECT 47uF 20% 50V		D516	8-719-815-85	DIODE 1S1585	
C405	1-164-041-11	CERAMIC 5PF 0.25PF50V		D517	8-719-815-85	DIODE 1S1585	
C408	1-124-910-11	ELECT 47uF 20% 50V		D518	8-719-815-85	DIODE 1S1585	
C410	1-136-163-00	FILM 0.068uF 5% 50V				< IC >	
C412	1-136-153-00	FILM 0.01uF 5% 50V (G)		IC101	8-749-900-34	IC STK-4182MK2	
C413	1-136-153-00	FILM 0.01uF 5% 50V (G)		IC301	8-749-900-34	IC STK-4182MK2	
C414	1-164-075-11	CERAMIC 150PF 10% 50V (G)		IC501	8-759-111-68	IC uPC1237HA	
C415	1-136-163-00	FILM 0.068uF 5% 50V				< JACK >	
C501	1-136-153-00	FILM 0.01uF 5% 50V		J101	1-569-378-11	JACK, PIN 4P (INPUT)	
C502	1-126-176-11	ELECT 220uF 20% 10V				< COIL >	
C503	1-136-157-00	FILM 0.022uF 5% 50V		* L101	1-420-872-00	COIL, AIR CORE 1.9uH	
C504	1-124-477-11	ELECT 47uF 20% 25V		* L201	1-420-872-00	COIL, AIR CORE 1.9uH	
C505	1-124-477-11	ELECT 47uF 20% 25V		* L301	1-420-872-00	COIL, AIR CORE 1.9uH	
C506	1-124-907-11	ELECT 10uF 20% 50V		* L401	1-420-872-00	COIL, AIR CORE 1.9uH	
C507	1-126-307-11	ELECT 6800uF 20% 50V				< TRANSISTOR >	
C508	1-126-307-11	ELECT 6800uF 20% 50V		Q101	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
C509	1-126-307-11	ELECT 6800uF 20% 50V		Q201	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
C510	1-126-307-11	ELECT 6800uF 20% 50V		Q301	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
△ C513	1-136-165-00	FILM 0.1uF 5% 50V (AE2, G)		Q401	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
△ C514	1-136-165-00	FILM 0.1uF 5% 50V (AE2, G)		Q501	8-729-620-05	TRANSISTOR 2SC2603-EF	
△ C515	1-136-165-00	FILM 0.1uF 5% 50V (AE2, G)		Q502	8-729-140-96	TRANSISTOR 2SD774-34	
△ C516	1-136-165-00	FILM 0.1uF 5% 50V (AE2, G)				< RESISTOR >	
< CONNECTOR >				R101	1-247-713-11	CARBON 1K 5% 1/4W	
CN101	1-537-235-11	TERMINAL BOARD (SP) (SPEAKER)		R102	1-249-466-11	CARBON 56K 5% 1/4W	
		(AE1, UK, E)		R103	1-247-710-11	CARBON 560 5% 1/4W	
CN101	1-537-227-11	TERMINAL BOARD (SP) (SPEAKER) (AE2)		R104	1-249-466-11	CARBON 56K 5% 1/4W	
CN101	1-537-228-11	TERMINAL BOARD (SP) (SPEAKER) (G)					
* CN106	1-569-648-11	PIN, CONNECTOR (PC BOARD) 11P					
* CN501	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P					
* CN502	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P					

Note : The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

MAIN

RELAY

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R105	1-247-714-11	CARBON	1.2K 5% 1/4W	R405	1-247-714-11	CARBON	1.2K 5% 1/4W
R106	1-249-681-11	CARBON	2.2K 5% 1/2W	R406	1-249-681-11	CARBON	2.2K 5% 1/2W
R107	1-249-681-11	CARBON	2.2K 5% 1/2W	R407	1-249-681-11	CARBON	2.2K 5% 1/2W
R108	1-249-673-11	CARBON	1K 5% 1/2W	R411	1-247-716-11	CARBON	1.8K 5% 1/4W
R109	1-249-673-11	CARBON	1K 5% 1/2W	R412	1-247-726-11	CARBON	33K 5% 1/4W
R110	1-249-466-11	CARBON	56K 5% 1/4W	△ R413	1-217-151-00	RES, METAL PLATE	0.22 2W F
R111	1-247-716-11	CARBON	1.8K 5% 1/4W	R414	1-247-727-11	CARBON	10 5% 1/2W
R112	1-247-726-11	CARBON	33K 5% 1/4W	R415	1-247-727-11	CARBON	10 5% 1/2W
△ R113	1-217-151-00	RES, METAL PLATE	0.22 2W F	R416	1-249-465-11	CARBON	47K 5% 1/4W
R114	1-247-727-11	CARBON	10 5% 1/2W	R418	1-247-727-11	CARBON	10 5% 1/2W (G)
R115	1-247-727-11	CARBON	10 5% 1/2W	R501	1-247-719-11	CARBON	3.3K 5% 1/4W
R116	1-249-466-11	CARBON	56K 5% 1/4W	R502	1-249-469-11	CARBON	100K 5% 1/4W
R117	1-249-458-11	CARBON	8.2 5% 1/4W F	R503	1-247-717-11	CARBON	2.2K 5% 1/4W
R118	1-247-727-11	CARBON	10 5% 1/2W (G)	R504	1-249-467-11	CARBON	68K 5% 1/4W
R201	1-247-713-11	CARBON	1K 5% 1/4W	R505	1-247-713-11	CARBON	1K 5% 1/4W
R202	1-249-466-11	CARBON	56K 5% 1/4W	R506	1-247-229-00	CARBON	360 5% 1/2W (EXCEPT AE2)
R203	1-247-710-11	CARBON	560 5% 1/4W	R506	1-247-743-11	CARBON	220 5% 1/2W (AE2)
R204	1-249-466-11	CARBON	56K 5% 1/4W	R507	1-247-229-00	CARBON	360 5% 1/2W (EXCEPT AE2)
R205	1-247-714-11	CARBON	1.2K 5% 1/4W	R507	1-247-743-11	CARBON	220 5% 1/2W (AE2)
R206	1-249-681-11	CARBON	2.2K 5% 1/2W	R508	1-247-229-00	CARBON	360 5% 1/2W (EXCEPT AE2)
R207	1-249-681-11	CARBON	2.2K 5% 1/2W	R508	1-247-743-11	CARBON	220 5% 1/2W (AE2)
R211	1-247-716-11	CARBON	1.8K 5% 1/4W	R509	1-247-229-00	CARBON	360 5% 1/2W (EXCEPT AE2)
R212	1-247-726-11	CARBON	33K 5% 1/4W	R509	1-247-743-11	CARBON	220 5% 1/2W (AE2)
△ R213	1-217-151-00	RES, METAL PLATE	0.22 2W F	R510	1-247-724-11	CARBON	8.2K 5% 1/4W
R214	1-247-727-11	CARBON	10 5% 1/2W	R511	1-247-725-11	CARBON	10K 5% 1/4W
R215	1-247-727-11	CARBON	10 5% 1/2W	R512	1-212-873-11	FUSIBLE	47 5% 1/4W F
R216	1-249-465-11	CARBON	47K 5% 1/4W	R513	1-247-725-11	CARBON	10K 5% 1/4W
R218	1-247-727-11	CARBON	10 5% 1/2W (G)	R514	1-247-716-11	CARBON	1.8K 5% 1/4W (EXCEPT AE2)
R301	1-247-713-11	CARBON	1K 5% 1/4W	R514	1-247-714-11	CARBON	1.2K 5% 1/4W (AE2)
R302	1-249-466-11	CARBON	56K 5% 1/4W	R515	1-247-716-11	CARBON	1.8K 5% 1/4W (EXCEPT AE2)
R303	1-247-710-11	CARBON	560 5% 1/4W	R515	1-247-714-11	CARBON	1.2K 5% 1/4W (AE2)
R304	1-249-466-11	CARBON	56K 5% 1/4W	< RELAY >			
R305	1-247-714-11	CARBON	1.2K 5% 1/4W	RY501	1-515-533-11	RELAY	
R306	1-249-681-11	CARBON	2.2K 5% 1/2W	RY502	1-515-533-11	RELAY	
R307	1-249-681-11	CARBON	2.2K 5% 1/2W	RY503	1-515-727-11	RELAY	
R308	1-249-673-11	CARBON	1K 5% 1/2W	RY504	1-515-727-11	RELAY	
R309	1-249-673-11	CARBON	1K 5% 1/2W	*****			
R310	1-249-466-11	CARBON	56K 5% 1/4W	* 1-641-094-11	RELAY BOARD		
R311	1-247-716-11	CARBON	1.8K 5% 1/4W	*****			
R312	1-247-726-11	CARBON	33K 5% 1/4W	1-533-225-11	HOLDER, FUSE		
△ R313	1-217-151-00	RES, METAL PLATE	0.22 2W F	< CONNECTOR >			
R314	1-247-727-11	CARBON	10 5% 1/2W	* CN503	1-564-104-00	PIN, CONNECTOR (B3P-VH)	3P
R315	1-247-727-11	CARBON	10 5% 1/2W	* CN504	1-564-104-00	PIN, CONNECTOR (B3P-VH)	3P
R316	1-249-466-11	CARBON	56K 5% 1/4W	*****			
R317	1-249-458-11	CARBON	8.2 5% 1/4W F	*****			
R318	1-247-727-11	CARBON	10 5% 1/2W (G)	*****			
R401	1-247-713-11	CARBON	1K 5% 1/4W	*****			
R402	1-249-466-11	CARBON	56K 5% 1/4W	*****			
R403	1-247-710-11	CARBON	560 5% 1/4W	*****			
R404	1-249-466-11	CARBON	56K 5% 1/4W	*****			

Note : The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

SW

VOL

VS

Ref. No.	Part No.	Description	Remark
*	1-641-089-11	SW BOARD ***** < CONNECTOR >	
* CN104	1-560-531-00	PIN, CONNECTOR 5P < SWITCH >	
S501	1-572-918-11	SWITCH, ROTARY (AMP 1, 2)	
S502	1-572-918-11	SWITCH, ROTARY (AMP 3, 4)	

*	1-641-087-11	VOL BOARD ***** < CONNECTOR >	
* CN107	1-563-381-11	SOCKET, CONNECTOR 11P < VARIABLE RESISTOR >	
RV101	1-238-176-11	RES, VAR, CARBON 100K/100K (AMP 1, 2)	
RV301	1-238-176-11	RES, VAR, CARBON 100K/100K (AMP 3, 4)	

*	1-641-092-11	VS BOARD (E) ***** 1-533-225-11 HOLDER, FUSE < CONNECTOR >	
* CN2	1-564-321-00	PIN, CONNECTOR 2P	
CN4	1-568-106-11	PIN, CONNECTOR 4P < SWITCH >	
S2	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR)	

MISCELLANEOUS *****			
△ 29	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
△ CNP1	1-575-651-11	CORD, POWER (AE1, AE2, G)	
△ CNP1	1-575-652-11	CORD, POWER (UK)	
△ CNP1	1-575-653-11	CORD, POWER (E)	
△ F1	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (EXCEPT E)	
△ F2	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (E)	
△ F3	1-532-237-00	FUSE, TIME-LAG (BET) (3.15A) (E)	
△ F501	1-532-325-00	FUSE, TIME-LAG (6.3A)	
△ F502	1-532-325-00	FUSE, TIME-LAG (6.3A)	
△ F503	1-532-325-00	FUSE, TIME-LAG (6.3A)	
△ F504	1-532-325-00	FUSE, TIME-LAG (6.3A)	
△ S1	1-554-920-31	SWITCH, PUSH (AC POWER) (1 KEY)	

Ref. No.	Part No.	Description	Remark
△ T1	1-450-698-11	TRANSFORMER, POWER (AE1, G)	
△ T1	1-450-699-11	TRANSFORMER, POWER (UK)	
△ T1	1-450-700-11	TRANSFORMER, POWER (E)	
△ T1	1-450-701-11	TRANSFORMER, POWER (AE2)	

ACCESSORIES & PACKING MATERIALS *****			
	3-677-503-00	SHEET (LARGE), PROTECTION	
	3-703-710-41	STICKER, SONY SYMBOL (12)	
	3-704-366-01	SCREW (CASE) (M3X8) (EXCEPT UK)	
	3-753-946-11	MANUAL, INSTRUCTION (EXCEPT G) (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
	3-753-946-41	MANUAL, INSTRUCTION (AE1, AE2, G) (GERMAN, DUTCH, SWEDISH, ITALIAN)	
*	4-923-860-01	CUSHION (EXCEPT UK)	
*	4-929-219-01	CUSHION (UK)	
*	4-947-336-01	INDIVIDUAL CARTON (EXCEPT UK)	
*	4-947-337-01	INDIVIDUAL CARTON (UK)	

***** HARDWARE LIST *****			
#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-682-548-09	SCREW +BVTT 3X8 (S)	
#3	7-682-549-04	SCREW +BVTT 3X10 (S)	
#4	7-682-560-04	SCREW +BVTT 4X6 (S)	
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#6	7-621-849-00	SCREW, TAPPING	

Note : The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.